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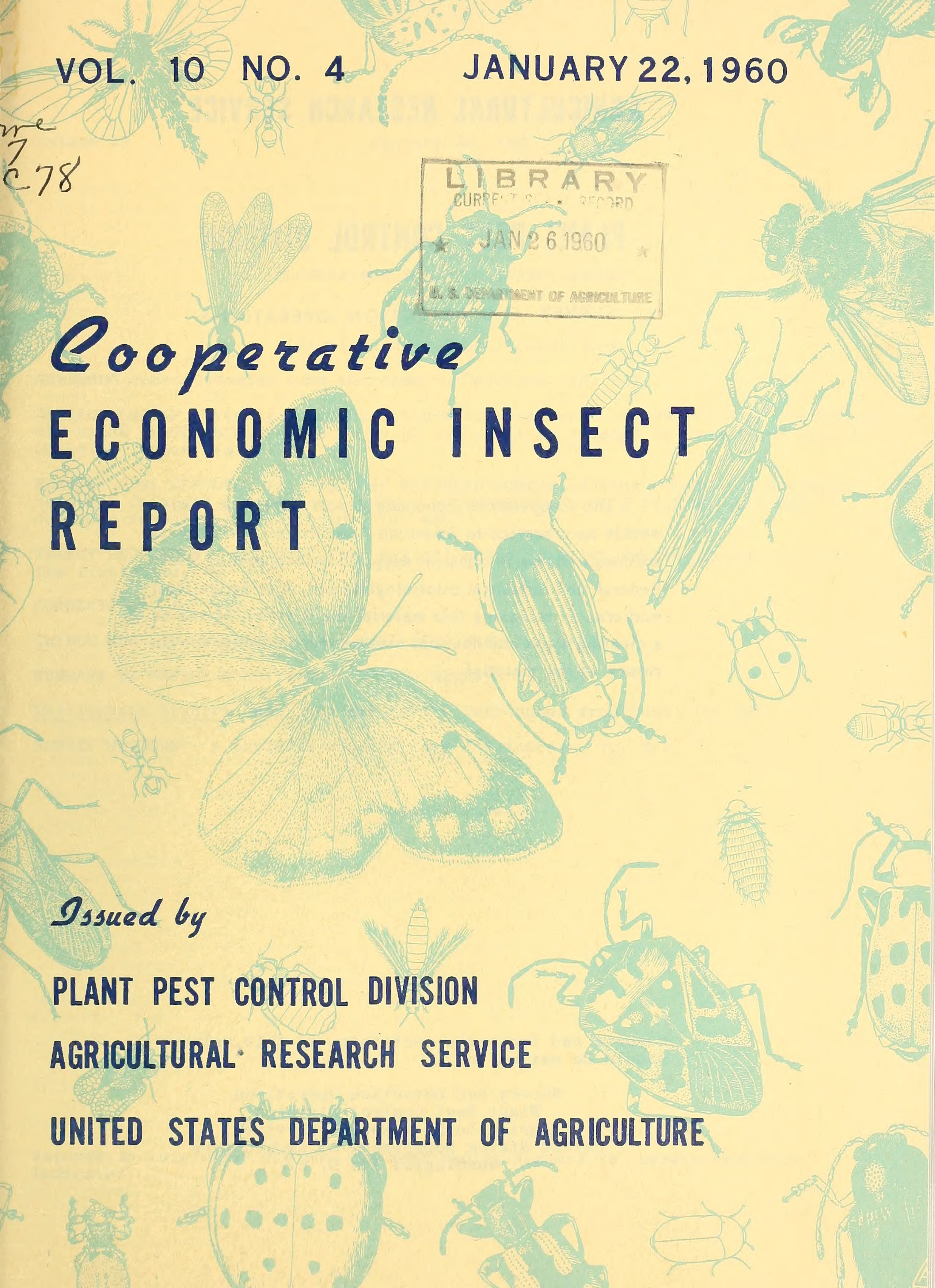

Cooperative
ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Division
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Volume 10 January 22, 1960 Number 4

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

GREENBUG counts showing some increase in Oklahoma. (p. 41).

CABBAGE LOOPER severely damaging lettuce in some areas of lower Rio Grande Valley and FALSE CHINCH BUGS ranged up to 50 per plant on turnips in Dimmit and Zavala Counties, Texas. (p. 41).

WESTERN PINE BEETLES, *Ips* spp. and FLATHEAD BORERS causing considerable damage to pines in areas of California and a heavy outbreak of a PINE PITCH MIDGE occurred recently in Washington. (p. 42).

INSECT DETECTION: *Imported fire ant* collected in Allen Parish, Louisiana, for the first time. (p. 43).

CORRECTIONS. (p. 43).

CHINCH BUG hibernation survey, fall 1959 (map). (p. 45).

SUMMARY OF INSECT CONDITIONS - 1959 - HAWAII. (p. 46).

Phyllophaga bruneri Chapin, a May beetle introduced from Cuba. (p. 47).

SURVEY METHODS - A portable rearing cage for insects. (p. 50).

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Reports in this issue are for the week ending January 15, unless otherwise indicated.

WEATHER BUREAU 30-DAY OUTLOOK

MID-JANUARY TO MID-FEBRUARY 1960

The Weather Bureau's 30-day outlook for the period mid-January to mid-February calls for temperatures to average below seasonal normals over the western half of the Nation, with greatest departures over the Plateau States. Over the eastern half of the country near normal averages are anticipated except for above normal over the Southeast. Precipitation is expected to exceed normal over most of the Nation except for subnormal amounts over the Pacific Northwest and extreme Southeast. These anticipated conditions indicate a continued succession of vigorous storms moving across the country from the Far Southwest through the central plains into the Northeast.

Weather forecast given here is based on the official 30-day "Resume and Outlook", published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington 25, D.C. Price $4.80 a year, $2.40 a half year.

WEATHER OF THE WEEK ENDING JANUARY 18

Variety was the keynote of weather conditions this week over most of the Nation. Below-normal temperatures persisted in the Far West and the Plateau States as freezing temperatures extended to all sections except the immediate coast, and below-zero readings were widespread in Nevada, Utah, Idaho, and eastern Washington and Oregon. Unseasonably mild weather extended from the northern Rocky Mountains across the Great Plains to the Great Lakes and Ohio Valley and southward to the Gulf and South Atlantic States during most of the week. Maximum temperatures reached the middle 50's in western South Dakota, and readings above 60° extended from Ohio and Indiana to Iowa, Kansas, and southeastern Colorado at midweek. Positive temperature departures exceeded 12° over a wide area of the central Mississippi and Ohio Valleys. Many records for maximum date temperatures were set, including 75° at Nashville, Tennessee, on the 13th; 69° at Kansas City, Missouri, and Evansville, Indiana; and 60° at Burlington, Iowa, on the 12th. Late in the week cold arctic air moved southward across the Great Plains and Mississippi Valley, returning temperatures to winter levels, as below-freezing readings extended to the Louisiana and Texas coasts on Tuesday morning and below-zero readings to the Texas Panhandle. Along the Gulf and Atlantic coasts unusually mild temperatures for mid-January stimulated pasture and small grain growth in the Southern States. Temperatures averaged near normal in New England and the Northeast, except in northern Maine, where above-normal readings were recorded all week.

Moderate to heavy precipitation this week was widespread in most sections of the Nation, except the northern Great Plains and peninsular Florida, as a series of major storm centers moved from the Far Southwest and southern Great Plains northeastward. Rainfall along the Pacific coast was generally above one inch, with over two inches in the extreme south. Heavy snow covered the southern Plateau States, where record amounts were reported on the ground in the White Mountains of Arizona, and extended across the central and southern Rocky Mountains and Great Plains from north Texas, Colorado, and Nebraska northeastward late in the week. Severe blowing and drifting snow and ice glazing closed roads and schools over a wide area. Snowfall of 4 to 6 inches was general from the Texas Panhandle to Wisconsin, and up to 12 inches fell in Iowa and 10 inches in Kansas. Record rains early in the week in Iowa, in addition to the heavy snow which followed, brought more than the normal January precipitation to several stations there. Showers, thunderstorms, and general rains across the southern tier of states left locally heavy totals in all areas except southern Texas, the Florida Peninsula, and along the south Atlantic coast. Wet weather predominated from the Ohio Valley to New England as almost daily rains fell in Ohio, Kentucky and Tennessee, with weekly totals over one inch. A combination of freezing rain, sleet, and snow produced severe surface glazing early in the week over most of Pennsylvania and New York and western New England. Heavy snow again late in the week extended from the Great Lakes into New England, with 5 to 8 inches general and heavier totals in local areas. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - TEXAS - Infestations ranged from none to very low counts in 5 counties in central area and 9 counties in west central area. Moisture was abundant and all small grains had good growth. (Hawkins). KANSAS - Counts averaged less than one per linear foot of row in wheat fields in Coffey, Montgomery and Elk Counties. (Peters). OKLAHOMA - Populations increased during past few weeks in infested fields of small grains in areas of sandy soil near the Cimarron River in Payne County; counts ranged 1-5 per linear foot in most fields, while an average of 23 per linear foot was noted in one field near Perkins. Counts of less than 3 per linear foot found in limited number of widely scattered fields throughout and including Pottawatomie, Lincoln, Logan, Kingfisher, Payne, Pawnee, Noble and Kay Counties. No winged forms noted. (VanCleave). Counts showed a slight increase over previous week in wheat and barley fields surveyed in Kingfisher County. Counts ranged 1-6 per linear foot (averaged 3.5 per linear foot) in 4 fields. None noted in another field checked in same area. (Owens). None noted in wheat field checked in Jackson County. (Presgrove).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - OKLAHOMA - Present in limited numbers (less than one per linear foot) in a few widely scattered fields of small grain in central and north central areas. (VanCleave). Counts ranged 2-4 per linear foot in 4 of 5 fields of small grain checked in Kingfisher County. (Owens).

SPOTTED ALFALFA APHID (Therioaphis maculata) - KANSAS - Populations were less than one per sweep in an alfalfa field in Montgomery County. (Peters). OKLAHOMA - Heavy, 1,000 plus per square foot, in a few isolated fields of old alfalfa in Hennessey area. Very light, up to 25 per square foot,in other fields checked in same area. Very light in alfalfa checked in Kay, Noble, Pawnee, Payne and Lincoln Counties. (VanCleave). Averaged 30 per linear foot of row in alfalfa field checked in Bison area. (Owens). None noted in alfalfa field in Jackson County. (Presgrove).

PEA APHID (Macrosiphum pisi) - KANSAS - Populations averaged less than one per sweep in alfalfa fields in Woodson, Neosho, Montgomery and Elk Counties. (Peters). OKLAHOMA - Present in limited numbers (up to 25 per square foot) in approximately one-half of the alfalfa fields in central and north central areas. (VanCleave). Counts averaged 5 per linear foot in an alfalfa field in Bison area (Owens) and none noted in field of alfalfa in Jackson County (Presgrove).

WINTER GRAIN MITE (Penthaleus major) - TEXAS - Low populations were found in Milam, Williamson and Burnet Counties. None were observed in fields sampled in other counties. (Hawkins).

TRUCK CROP INSECTS

A WEBWORM (Pachyzancla periusalis) - ALABAMA - Light infestation found in potatoes in Coffee County on December 1, 1959. This is first record in this host in the State. (Guyton).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Most important pest in lower Rio Grande Valley during week ending January 15. In some areas, lettuce has been severely attacked. (Deer).

FALSE CHINCH BUGS (Nysius spp.) - TEXAS - Infestations ranged up to 50 per plant on turnips in Dimmit and Zavala Counties. (Harding).

FLEA BEETLES - TEXAS - Undetermined species caused damage to late cabbage in Willacy County and caused minor damage to tomatoes and mustard in other areas. (Deer).

DARKLING BEETLES - TEXAS - Undetermined species caused minor damage to tomatoes in Brownsville area. (Deer).

THRIPS - TEXAS - Damage was noted in some onion fields in the lower Rio Grande Valley. (Deer).

BLACK CUTWORM (Agrotis ypsilon) - CALIFORNIA - Damaging sugar beet plantings in Irvine area, Orange County. (Cal. Coop. Rpt.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - LOUISIANA - Five new properties found infested in Lincoln Parish. This parish had been released from quarantine early in 1959. (Spink, PPC).

AN EARWIG - ALABAMA - Large numbers found feeding on sweetpotato scraps during December 1959, in fields near Semmes, Mobile County. (Seibels).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

WESTERN PINE BEETLE (Dendroctonus brevicomis) - CALIFORNIA - Occurring in epidemic infestations in the Bass Lake area of the Sierras. This rapidly expanding infestation in ponderosa pine is killing groups of 10-20 trees in a 1,200-acre stand. Salvage logging of merchantable timber is underway and it is recommended that poles and unmerchantable trees be felled and treated,as salvage logging alone will not stem the epidemic. This area has a high recreational value and usage. (C. B. Eaton). D. brevicomis in association with Ips spp. is causing serious damage on private and forest stands in the Tule Indian Reservation and Camp Wishon areas of the Sequoia and near Jackson in Amador County. This is a high recreation value area and a rapid buildup of beetles threatens epidemic infestations this spring. (Waklee, Fox). D. brevicomis and flatheaded borers are causing top fade and complete kill of single and groups of ponderosa and Coulter pines in the Arroyo Seco district and Messenger Flats areas of Los Angeles County. Poles through mature trees are being attacked in this high recreational value area. Extreme drought conditions apparently are contributing to the "dieout" in a 500-acre area. (R. B. Foree).

A PINE WEEVIL (Pachylobius picivorus) - ALABAMA - From 1-8 adults observed on stand of pine seedlings in Mobile County during December 1959. (Seibels).

DEODAR WEEVIL (Pissodes nemorensis) - ALABAMA - A moderate infestation observed during December 1959, in Mobile County. (Seibels).

A PINE PITCH MIDGE (Retinodiplosis sp.) - WASHINGTON - A heavy outbreak recently occurred in ponderosa pine in Ferry, Stevens, Pend Oreille, Spokane and Whitman Counties. (Missoula For. Ins. Lab.).

AN ANOBIID (Vrilletta decorata) - CALIFORNIA - Light infestation of black walnut trees in Los Angeles, Los Angeles County. (Cal. Coop. Rpt.).

WALNUT SCALE (Aspidiotus juglans-regiae) - CALIFORNIA - Medium infestations on black walnut trees in Pomona, Los Angeles County. (Cal. Coop. Rpt.).

A SCALE (Aspidiotus lataniae) - CALIFORNIA - Heavy infestation on black walnut trees in west Los Angeles, Los Angeles County. (Cal. Coop. Rpt.).

AZALEA CATERPILLAR (Datana major) - NORTH CAROLINA - Large numbers in a yard in Cumberland County. (Monroe, Farrier).

GRAPE MEALYBUG (Pseudococcus maritimus) - CALIFORNIA - Heavy infestation occurring on dwarf euonymus in Modesto, Stanislaus County. (Cal. Coop. Rpt.).

A BAMBOO BORER (Dinoderus minutus) - CALIFORNIA - Light to medium infestations in bamboo stakes in Santa Barbara, Santa Barbara County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (*Hypoderma* spp.) - KANSAS - *H. lineatum* found lightly infesting 2 of 12 steers inspected in Ellis County. (Knapp). UTAH - Numerous in many Kane County cattle. There were few until late December 1959. (Knowlton, Rose). SOUTH CAROLINA - *H. lineatum* averaged 6 grubs per head in herd of untreated cattle at Edisto Experiment Station on January 5. (Adkins).

CATTLE LICE - UTAH - Troublesome in several western Box Elder County herds and in some beef cattle in the Roosevelt-Myton area of Duchesne County. (Knowlton). Also common, generally moderate to severe, in Kane County herds. (Knowlton, Rose). OKLAHOMA - Heavy infestation reported on 80 head of range cows and calves in Payne County. (Howell). Heavy on 60 steers, 40 beef cows and 82 dairy cows checked in Pawnee County. (Young). Light to medium infestations on cattle in Noble and Kay Counties. (Hesser, Hutchinson).

FACE FLY (*Musca autumnalis*) - VIRGINIA - Adults of this species, along with adults of *Pollenia rudis*, are present in some homes in Highland County. Investigation of 2 complaints by homeowners revealed that *M. autumnalis* adults were equal to or exceeded *P. rudis* in number. (Turner, Morris).

CHICKEN BODY LOUSE (*Menacanthus stramineus*) - KANSAS - A flock of laying hens were heavily infested in Riley County. (Knapp).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - LOUISIANA - Infestation reported in Allen Parish for the first time. This new parish record brings to 49 the number of parishes found infested. (Spink, PPC).

SUBTERRANEAN TERMITES - UTAH - Quite a number of Salt Lake County homeowners have reported damage in recent weeks. (Knowlton).

CORRECTIONS

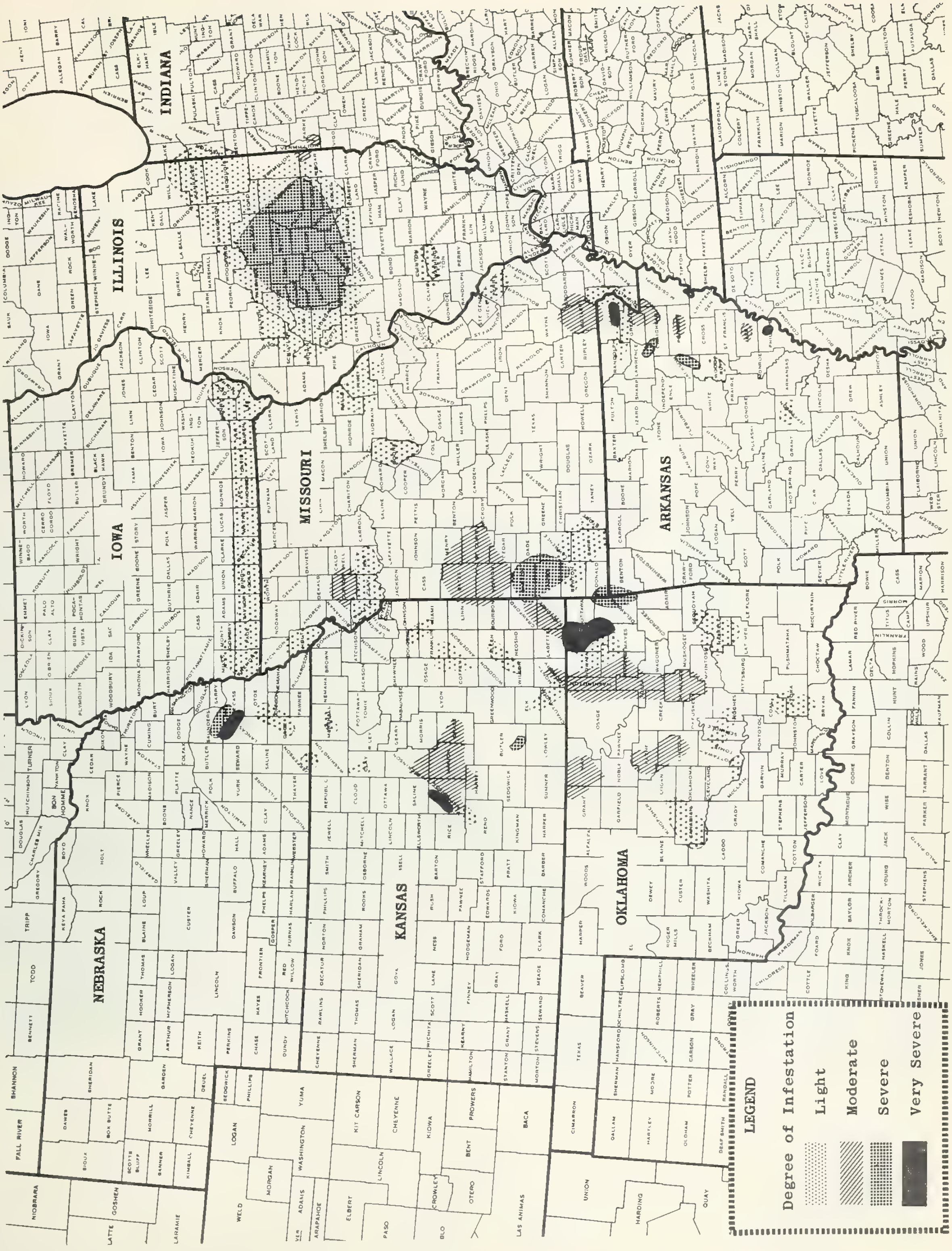
CEIR 9(25):549 - EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) - MARYLAND - Record of this species in Anne Arundel County should be deleted. The only valid record of this species in Maryland is in Garrett County. Correction should also be made on page 30 of special compilation of "Distribution Maps" issued in December 1959.

CEIR 9(28):623 - A MILLIPEDE (Pleuronema butleri) should read A MILLIPEDE (*Pleuroloma* butleri).

LIGHT TRAP COLLECTIONS

	Pseudaletia unipuncta	Feltia subterranea	Prodenia ornithogalli	Agrotis ypsilon	Perid. marg.
FLORIDA					
Monticello 1/12		2	1		
Quincy 1/4	3	4		2	
LOUISIANA					
Baton Rouge 1/8-14	6	2	14	3	
SOUTH CAROLINA					
Clemson 1/9-15	5			7	2
Charleston 1/4-10	6	12		7	1
Charleston 1/11-17	6	22	3	5	

CHINCH BUG SURVEY — 1959



SUMMARY OF INSECT CONDITIONS - 1959

HAWAII

Prepared by Clifton J. Davis,
State Board of Agriculture
and Forestry

Highlights: This was a particularly active year for lepidopterous insects, not only for destructive immigrant and native species, but beneficial introductions as well. ARMYWORMS caused extensive damage to forage grasses and lawns, a GEOMETRID caused much defoliation to leguminous plants in western areas, a native COCONUT LEAF ROLLER destroyed up to 100 percent of the fronds in windward coastal areas on Oahu and beneficial insects introduced for the control of the range pest, *Lantana camara* var. *aculeata*, denuded many square miles of this aggressive range weed.

Cereal and Forage Insects: ARMYWORM (*Pseudaletia unipuncta*) was more abundant than usual on Parker and neighboring ranches, Island of Hawaii, and damaged many acres of kikuyugrass, *Pennisetum clandestinum*. A LAWN ARMYWORM (*Spodoptera mauritia acronyctoides*) was very active on Bermuda grass and was recorded from the Island of Hawaii for the first time. Damage to range grasses at lower elevations on Hawaii was not confirmed but highly probable. PEA APHID (*Macrosiphum pisi*) caused heavy damage to ten acres of alfalfa at Waimea Dairy, Island of Kauai, in January. This was the first record of this pest from this island. It was previously recorded from Ewa and Mokuleia, Oahu, for the first time in 1958. A GEOMETRID (*Anacamptodes fragilaria*) increased considerably and heavily defoliated *Prosopis juliflora* and *Leucaena glauca*. The former is important to the honey industry, while the latter is an important forage crop in some ranching areas.

Forest, Ornamental and Shade Tree Insects: A COCONUT LEAF ROLLER (*Hedylepta blackburni*) broke out in epidemic proportions and caused widespread damage to coconut fronds in coastal areas. Up to 100 percent of the fronds was destroyed. Devastation as described was not observed for many years and it is one of the few instances of a native insect periodically causing extensive damage in Hawaii.

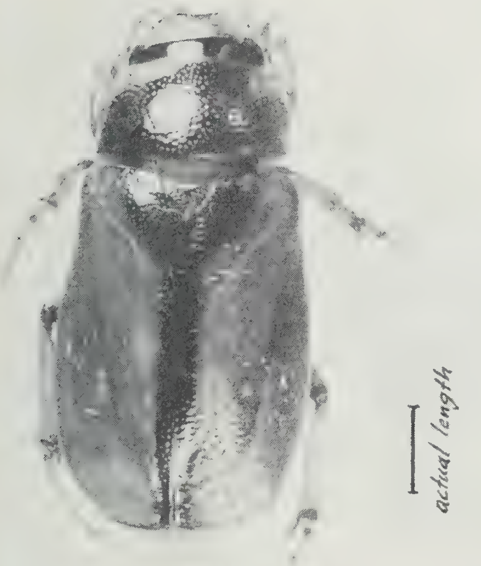
Beneficial Insects: A NOCTUID (*Hypena jussalis*), an introduced defoliator for the range pest, *Lantana camara* var. *aculeata*, "exploded" on the Island of Maui and denuded hundreds of acres of lantana at Ulupalakua. This beneficial insect was introduced from Diani Beach, Kenya Colony, and Umtali, Southern Rhodesia, in 1957. A NOCTUID (*Catabena esula*), another lantana defoliator which was introduced from California in 1955, was reported from a number of localities in increasing numbers. A MIRID (*Cyrtorhinus lividipennis*), an egg predator of corn planthopper (*Peregrinus maidis*), was recovered at Kapoho, Hawaii, for the first time since its introduction there in 1952 and another MIRID (*C. fulvus*), an egg predator of a taro leafhopper (*Tarophagus prosperina*), was present in most infested areas and was one of the main factors in suppressing *T. proserpina*. A CACTUS BORER (*Lagocheirus funestus*), introduced in 1951 for the control of cactus, was observed in increasing numbers and corresponding damage was noted at the Parker Ranch, Kamuela, Hawaii.

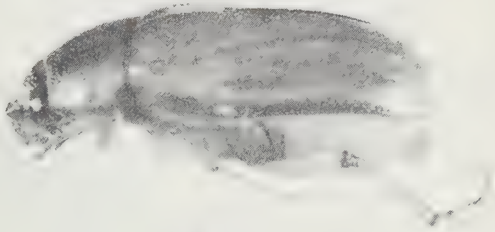
PHYLLOPHAGA BRUNERI CHAPIN, A MAY BEETLE INTRODUCED FROM CUBA

by

R. E. Woodruff

This report is prepared as an aid to the observer in the field and is not intended as a complete scientific report. Detailed morphological descriptions of the adult and immatures are reserved for later publication. Since this species is difficult to recognize, except by a specialist in the group, this aid is merely a guide and cannot be used to make a final determination. Adults of the genus Phyllophaga are probably familiar to most persons under the common names of "May beetle" and "June Beetle" and larvae are known as "white grubs." They are members of the large family of beetles known as Scarabaeidae which contains such familiar pests as Japanese beetle, Asiatic garden beetle, European chafer and oriental beetle.





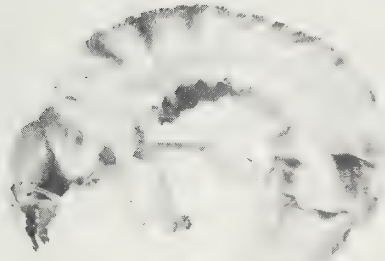


Fig. 1 - Dorsal view of adult

Fig. 2 - Lateral view of adult

Fig. 3 - Lateral view of larva

Illustrations and material furnished by Entomology Department, State Plant Board of Florida.

History - Phyllophaga bruneri Chapin was described in 1932 from a single male specimen collected at Santiago de las Vegas, Havana Province, Cuba, on June 14, 1921. There is no reference to this species in the literature since that time. It was first found in the United States at Miami, Florida, in June 1959 and seems to be well established in that city.

Distribution - In Cuba, this species is known only from the area around Santiago de las Vegas, where it appears to be a rare species. In the United States, it is known only from the city of Miami, Florida. In Miami, this pest has been found over approximately 4 square miles, most of which is in close proximity to the Miami River. This area is bounded on the west by N. W. 42nd Ave., on the east by N. W. 12th Ave., on the south by N. W. 7th St., and on the north by N. W. 54th St. There is one record from Majorca Ave. in Coral Gables, but there is some question regarding this specimen. Initial surveys have not located the beetles in areas outside the one delimited above.

Description - The genus Phyllophaga contains many species which are similar in general appearance and it is necessary to use the genitalia for specific identification. The beetles are relatively small (length approximately 9 mm.) for the genus, and light golden tan in color with a slight metallic lustre, especially at the suture between the wing covers and the head and thorax. The antennae are 9-segmented which is characteristic of all the West Indian species. There is only one known species which occurs in the United States that has 9-segmented antennae (Phyllophaga youngi Cartwr. from Brickell Hammock in Miami); the other United States species have 10-segmented antennae.

Life History and Habits - Practically no information is at hand concerning the life history of this particular species. However, some information can be drawn from the knowledge of related species. The larvae are "C"-shaped white grubs which occur in the soil and feed on the roots of various plants (primarily grasses). This species has been found feeding on the roots of St. Augustine grass in Miami and will probably have a fairly wide host range when more thoroughly studied. Some of the closely related species are known pests of sugarcane in the West Indies. Host preference tests and rearing operations now being carried out will help us to answer some of the questions regarding this species in Miami. There are 42 species of Phyllophaga known from Florida. Most of these have only one generation per year and the adults occur from April to September. Some of the native species require 2 years or more to complete their life cycle, and in the northern United States some require even longer periods. However, we might expect a more rapid development of such a tropical insect, and perhaps more than one generation per year. The adults are attracted to electric lights and can be collected by use of a blacklight trap. They are strictly nocturnal and all feeding is done at night. They are probably strong fliers and might be expected to be attracted to lights some distance from their diurnal resting places. They apparently spend the daylight hours in the soil or under debris on the ground. The adults feed primarily on foliage of broad-leaved trees and shrubs, but occasionally damage flowers (as in some varieties of hibiscus). The feeding signs are characteristic when they are severe, but resemble damage caused by the citrus root weevil (Pachnaeus litus) when only the leaf border is notched. Beetles can become numerous enough to partially defoliate a tree, and severe damage and stunting could result. However, it is not likely that adult beetles could cause death of the plants. The larvae damage roots of grasses and could become very serious pests of turf. There is some indication that larvae of this species feed on roots of at least one tree (Trema mollis (= floridana)).

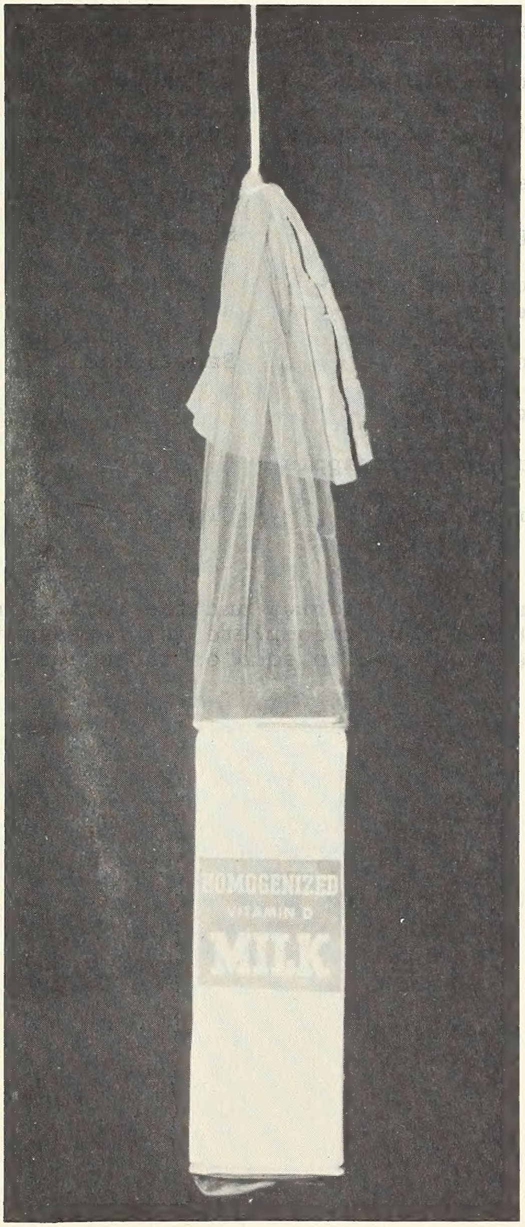
Hosts - Adults have been found feeding on the following plants:

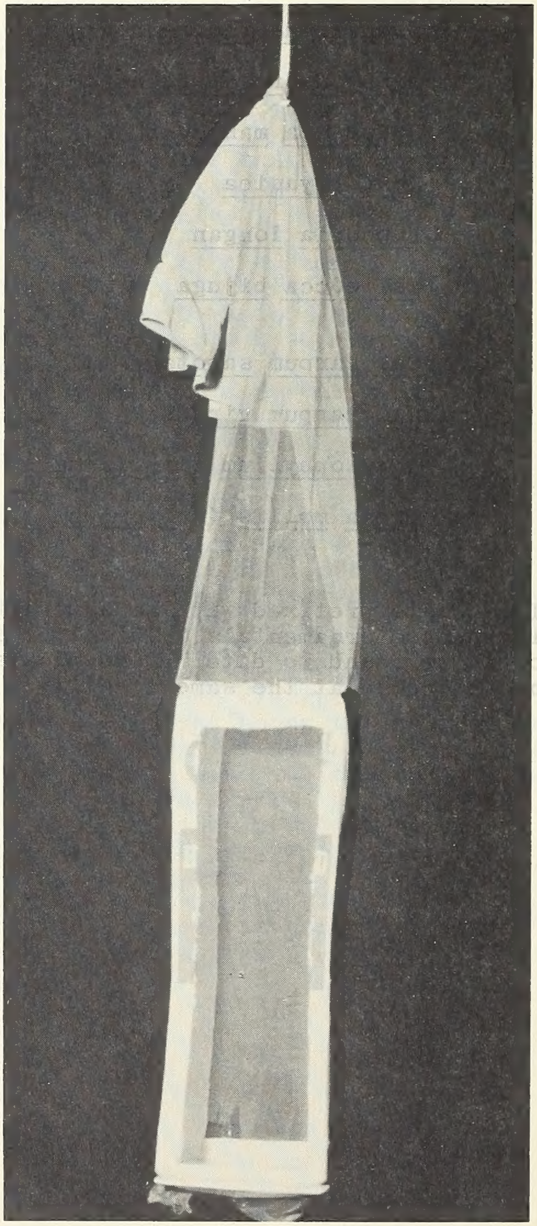
Scientific Name	Common Name	Family
Bauhinia sp.	bauhinia	Leguminosae
Cassia fistula	goldenshower senna	"
Cassia marginata	senna	"
Castanospermum australe	moretonbaychestnut	"
Gliricidia sepium		"
Gliricidia sp.		"
Tamarindus indica	tamarind	"
Hibiscus rosa-sinensis	Chinese hibiscus	Malvaceae
**Swietenia mahagoni*	West Indies mahogany	Meliaceae
Khaya nyasica	nyassa khaya	"
Euphoria longan	longan	Sapindaceae
Melicocca bijuga	mamoncillo honeyberry	"
Calocarpum sapota	sapote	Sapotaceae
Calocarpum viride	green sapote	"
**Chrysophyllum oliviforme*	satinleaf starapple	"
**Trema mollis* (= *floridana*)	Florida trema	Ulmaceae

The plants prefixed with an asterisk are native to Florida and the remainder are introduced ornamentals. This list is probably very incomplete but represents all of those found to date. Some plants closely related to some of those above were not attacked at the same locality.

A PORTABLE REARING CAGE FOR INSECTS [1]

A simple, inexpensive idea for rearing out insects is illustrated below. A one or two-quart, square, waxed, paper milk carton with the inside margin of the top and two sides cut out is placed in a lady's discarded stocking about half-way down. A rubber band is placed around the indentation at the base of the carton to hold the stocking in place and the foot is cut off. The rearing material is then placed in the cage and the excess stocking at the top is tied in a knot and used to suspend the cage.





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[1] Contributed by Bureau of Entomology, California State Department of Agriculture

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